

## **AMENDMENTS TO THE CLAIMS**

Please amend the claims as indicated hereafter.

1. (Previously Presented) A method of data object transformation between a middleware and a application, the method comprising:

receiving a message from a messaging middleware by a data transformation adapter, the message including one or more data objects of a first object type, wherein the message is a first communications format;

converting by the data transformation adapter the message from the first communications format to a second communications format;

converting by the data transformation adapter the one or more data objects from the first object type to a second object type, wherein the one or more data objects are converted using a first set of one or more transformation classes, the one or more transformation classes being configured to transform the one or more data objects from the first object type to the second object type, each of the one or more transformation classes generated using mapping rules, the mapping rules including eXtensible Markup Language (XML) based syntax that uses rule specification guide to facilitate transforming the one or more data objects from the first object type to the second object type; and

transmitting by the data transformation adapter the one or more second object type data objects to an application.

2. (Previously Presented) The method according to claim 1, wherein the first communications format includes a middleware-dependent format, and the second communications format includes a middleware-independent format.

3. (Previously Presented) The method according to claim 1, wherein each of the one or more data objects includes a Java object.

4. (Previously Presented) The method according to claim 1, wherein the first object type includes a domain object model type and the second object type includes an application-specific object model type.

5. (Previously Presented) The method according to claim 1, further comprising:  
registering the application with the messaging middleware; and transmitting high-level function calls to the application.

6. (Previously Presented) The method according to claim 1, the method further comprising:

receiving a second message from the application, the second message including one or more data objects of the second object type;

converting the one or more data objects from the second object type to the first object type, wherein the one or more data objects are converted using a second set of one or more of the transformation classes;

generating a communications line dependent message, the communications line dependent message including the one or more first object type data objects; and

transmitting the communications line dependent message to the messaging middleware.

7. (Canceled)

8. (Canceled)

9. (Canceled)
10. (Canceled)
11. (Previously Presented) A data transformation adapter having program instructions stored in memory, the program instructions comprising:
- generating a first object model and a second object model, the first object model including a plurality of data objects of a first object type, and the second object model including a plurality of data objects of a second object type;
  - storing the first and second object models in one or more memories;
  - generating mapping rules, the mapping rules including eXtensible Markup Language (XML) based syntax that uses rule specification guide to facilitate transforming the one or more data objects from the first object type to the second object type;
  - generating a plurality of transformation classes using the first and second object models and the transformation mapping rules, the one or more transformation classes being configured to transform the one or more data objects from the first object type to the second object type;
  - receiving one or more data objects;
  - converting the received one or more data objects, via the transformation classes, from (1) the first object type to the second object type; or (2) from the second object type to the first object type ; and
  - transmitting the converted one or more data objects.
12. (Previously Presented) The method according to claim 11, wherein each of the one or more data objects includes a Java object.

13. (Previously Presented) The method according to claim 11, wherein the first object model includes a domain object model and the second object model includes an application-specific object model.
14. (Previously Presented) The method according to claim 11, wherein the first object type includes a domain object model type and the second object type includes an application-specific object model type.
15. (Previously Presented) The method according to claim 11, wherein the one or more data objects are received from a messaging middleware.
16. (Previously Presented) The method according to claim 11, wherein the one or more data objects are received from an application, the application being coupled to a messaging middleware.
17. (Previously Presented) A system for data object transformation, the system comprising:  
one or more processors;  
one or more memories coupled to the one or more processors; and  
a data transformation adapter having program instructions stored in the one or more memories, the one or more processors being operable to execute the program instructions, the program instructions including:  
receiving a message from a messaging middleware, the message including one or more data objects of a first object type, wherein the message is in a first communications format;  
converting the message from the first communications format to a second communications format;

converting the one or more data objects from the first object type to a second object type, wherein the one or more data objects are converted using a first set of one or more transformation classes, the one or more transformation classes being configured to transform the one or more data objects from the first object type to the second object type, each of the one or more transformation classes generated using mapping rules, the mapping rules including eXtensible Markup Language (XML) based syntax that uses rule specification guide to facilitate transforming the one or more data objects from the first object type to the second object type; and

transmitting the one or more second object type data objects to an application.

18. (Previously Presented) The system according to claim 17, wherein first communications format includes a middleware-dependent format, and the second communications format includes a middleware-independent format.

19. (Previously Presented) The system according to claim 17, wherein each of the one or more data objects includes a Java object.

20. (Previously Presented) The system according to claim 17, wherein the first object type includes a domain object model type and the second object type includes an application-specific object model type.

21. (Previously Presented) The system according to claim 17, wherein the program instructions further include:

receiving a second message from the application, the second message including one or more data objects of the second data format;

converting the one or more data objects from the second object type to the first object type, wherein the one or more data objects are converted using a second set of one or more of the transformation classes;

generating a communications line dependent message, the communications line dependent message including the one or more first object type data objects; and

transmitting the communications line dependent message to the messaging middleware.

22. (Previously Presented) A system for data object transformation, the system comprising:

a communications line;

a transformation adapter coupled to the communications line, the transformation adapter including:

an assembly/disassembly layer configured to convert messages from a first communications format to a second communications format;

a transformation layer configured to convert data objects from a first object type to a second object type using one or more transformation classes, the one or more transformation classes being configured to transform the one or more data objects from the first object type to the second object type; and

a method invocation layer;

a transformation class generator coupled to the transformation adapter, the transformation class generator configured to generate the one or more transformation classes using transformation mapping rules, the mapping rules including eXtensible Markup Language (XML) based syntax that uses rule specification guide to facilitate transforming the one or more data objects from the first object type to the second object type; and

an application coupled to the transformation adapter, wherein the application transmits data to and receives data from the method invocation layer.

23. (Previously Presented) The system according to claim 22, wherein the communications line includes messaging middleware.

24. (Previously Presented) The system according to claim 22, wherein each of the one or more data objects includes a Java object.

25. (Previously Presented) The system according to claim 22, wherein the first object type includes a domain object model type and the second type includes an application-specific object model type.

26. (Previously Presented) An apparatus for data object transformation, the apparatus comprising:

means for generating a first object model and a second object model, the first object model including a plurality of data objects of a first object type, and the second object model including a plurality of data objects of a second object type;

means for storing the first and second object models;

means for generating transformation mapping rules, the mapping rules including eXtensible Markup Language (XML) based syntax that uses rule specification guide to facilitate transforming the one or more data objects from the first object type to the second object type;

means for generating a plurality of transformation classes using the first and second object models and the transformation mapping rules, the one or more transformation classes being configured to transform the one or more data objects from the first object type to the second object type;

means for receiving one or more data objects;

means for converting the received data objects, via the transformation classes, from the first object type to the second object type; and

means for transmitting the converted one or more data objects.